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Global Intelligent Transportation Chain Based on Traditional Chinese Medicine: Taking the Anti-Tumor and Other Effect of Ginseng as an Example in Global Production and Salesand Economic Discussion

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Abstract: The global sale of TCM is in line with China's national policy. The therapeutic concept of Chinese medicine has an avant-garde guiding role in the world. We need to design related intelligent production chain, which is of great help to the internationalization of TCM. Therefore, we have designed and analyzed it. Ginseng has strong anti-tumor capability. Therefore, we try to analyze the relevant data and discuss it in the light of economics.

Keywords: Traditional Chinese Medicine; Ginseng; Oncology; Medicine; Economics

Introduction

Ginseng, known as the king of herbs, is the most famous traditional Chinese medicine, so that they are a little mysterious. Some people say that ginseng is precious because it is rare and the yield is too small. In fact, it is not. The main reason why ginseng is precious is because it has more efficacy and more definite curative effect, so it is precious.

We conducted a search on the CNKI China Knowledge Network and found that ginseng has the following functions:

Firstly, regulating the central nervous system: Ginseng can regulate the central nervous system, improve the excitation and inhibition process of the brain, and make it tend to be balanced; it can improve the ability of mental and physical labor, improve work efficiency, and have anti-fatigue effect.

Secondly, it has the function of promoting the brain, which can help people improve their learning and memory ability, because ginseng contains substances for our memory.

Thirdly, improving cardiac function: Ginseng can increase myocardial contractility, slow down heart rate, increase cardiac output and coronary blood flow, and resist myocardial ischemia and arrhythmia. It has certain effects on cardiac function, cardiovascular system and blood flow. Ginseng has obvious hypoxia tolerance, and its preparation is effective against sinus arrhythmia. Ginsenoside can accelerate lipid metabolism and has a significant effect of reducing high cholesterol. Small doses of ginseng can slightly increase blood pressure in anesthetized animals, while large doses can reduce blood pressure. Different ginseng preparations can enhance the function of isolated toad heart and in vivo rabbit, cat and dog heart, and improve the myocardial weakness during ventricular fibrillation.

Fourthly, hypoglycemic effect: Ginseng contains ginsenoside and ginseng polysaccharide. In particular, ginsenoside Rb2 has obvious hypoglycemic effect. In addition, ginseng polysaccharide (or glycopeptide) is another hypoglycemic component of ginseng.

Fifthly, enhancing the immune function of the body: ginseng contains active ingredients that can regulate the immune function of our body, and it also helps to improve the immune system of people with low immunity.

We believe that the global supply chain design of ginseng needs to be based on the following principles：

The first is to optimize the industrial layout and promote industrial integration. The Chinese medicine industry includes Chinese medicinal materials cultivation, processing, R&D and production, sales and trade, and large-scale health industry services. All provinces in central China are rich in Chinese medicine resources. The overall planning of the pharmaceutical industry chain in central China should be done well, and big data and artificial intelligence should be fully utilized to optimize the services of the entire industry chain, improve the production efficiency in all links of the entire industry chain, and promote the integrated development of the entire industry we will build a community of interests for the entire industrial chain and continuously optimize and improve the industrial layout.

The second is to strengthen industrial innovation and increase market share through product and service innovation. Using modern scientific and technological means and western medical data analysis, we should innovate the scientific and technological content of Chinese medicine products and services, expand additional products, and increase the added value of Chinese medicine products. We will vigorously develop the health market of traditional Chinese medicine in Central China, continuously develop new medicines and foods, promote traditional Chinese medicine health food to play a major role in the integration of medicine and nursing, and increase the market share of health care with products and services.[1]

In the process of internationalization of traditional Chinese medicine, we must abide by the following principles:

The first step is to go abroad, which reflects the spirit of innovation; the second step is to enter the world and make Chinese medicine an international "drug" through the integration of Chinese and Western medicine and the integration of technical standards; the third part is to go to the high end and make our Chinese medicine products become international first-line clinical drugs, which are accepted and used by doctors, patients and medical insurance institutions. Of course, there are many difficulties to overcome in order to achieve this goal. Taking Tasly Compound Danshen Dropping Pills as an example, there are 10 key bottlenecks in the internationalization of traditional Chinese medicine. Clinical research, CMC research, and communication of policies and regulations are the top priorities. In addition, pharmacology and toxicology, data management, North American production, market layout, pharmaceutical economy, risk prevention, and strong alliance must all attract the attention of enterprises taking international.[2]

Ginsenoside Rh2 is called "life protector" by many people. It is the most active substance in all components of ginseng, because its content is only one in 100,000, which is extremely precious.

1. Inhibition of tumor cell growth

Regulating tumor cell signaling pathway systems. Cell signaling pathway system refers to cells receiving external signals, through a set of specific mechanisms, the extracellular signals are transmitted into intracellular signals, and ultimately regulate the expression of specific genes, and cause cell response.

2. Inducing apoptosis of tumor cells

Studies have found that cancer can be treated by some drugs or artificially accelerating cancer cell apoptosis. Experiments show that Rh2 can induce apoptosis of glioma, liver cancer and other cancer cells through different ways, restore normal cell proliferation, and effectively treat cancer.

3. Reversing the abnormal differentiation of tumor cells[3]

Ginsenoside Rh2 is an exogenous differentiation inducer. By inducing differentiation and apoptosis, cancer cells not only undergo morphological differentiation changes, but also undergo functional differentiation changes. Eventually, cancer cells can evolve into normal cells and even become normal cells completely.

4. Reversal of drug resistance in oncology

In the process of treating tumors, clinical chemotherapy failure is often related to the resistance of tumor cells to

chemotherapeutic drugs. Ginsenoside Rh2 can be used as a tumor resistance reversal agent to improve the anti-tumor activity of chemotherapeutic drugs. Ginsenoside Rh2 has strong anti-tumor activity and can be used in the treatment of cancer resistant to various anti-tumor drugs.

5. To achieve anti-tumor goals by improving immunity

Ginsenoside Rh2 can regulate and enhance the immune function through various ways, and has a protective effect on the immune system. Ginsenoside Rh2 can significantly increase IL-2 activity, phagocytic function of macrophages and killing activity of NK cells, thus exerting anti-tumor effect. Its protective effect on the immune system is a major feature of Rh2 over other anti-tumor drugs.

6. Anti-tumor metastasis

The experimental study of ginsenoside Rh2 against cancer cell metastasis showed that ginsenoside Rh2 had a significant inhibitory effect on spontaneous lung metastasis of mouse B16-BL6 melanoma cell highly metastatic strain. The lung coefficient of Rh2 at the dose of 26,52 mg/kg was significantly different from that of the control group. The number of lung metastatic nodes at the dose of 16.6 mg/kg was significantly different from that of the control.[4]

7. Synergistic attenuation with chemotherapy drugs

In the process of treating tumors, clinical chemotherapy failure is often related to the resistance of tumor cells to chemotherapeutic drugs. Ginsenoside Rh2 can be used as a tumor resistance reversal agent to improve the anti-tumor activity of chemotherapeutic drugs. General chemotherapy drugs are not easy to enter cancer cells. There is a P-glycoprotein in cancer cells that can expel chemotherapy drugs, resulting in poor tolerance of cancer cells to chemotherapy drugs. Rh2 has hydrophilic and lipophilic properties, and can easily enter the nucleus to kill cancer cells.[5]

Economic discussion: At present, China is in a period of rapid economic development, which can promote the process of population agglomeration and urbanization, and promote economic growth and balanced development. We find that the optimization of industrial structure and the international balance are favorable, and realize the new development pattern with the domestic cycle as the main body and the domestic and international double cycles mutually promoting each other. The international trade of ginseng meets these standards. The speed of urbanization can be adjusted through the cultivation and industrial production of ginseng, the economic development planning of densely populated areas around factories, and the export of products can also promote the increase of GDP. The export of ginseng is of great benefit to our country.

Conclusion

There is no doubt about the medical role of ginseng. We can benefit the whole world through the export of ginseng. The export of Chinese ginseng is also beneficial to China, which can accelerate the internationalization of traditional Chinese medicine. Therefore, we believe that the design of relevant industrial chains is conducive to national development and world progress.

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